Internal
C0070033
OK

MEMORANDUM

Utah Coal Regulatory Program

September 1, 2010

TO: Internal File

THRU: James D. Smith, Permit Supervisor JDS 01 Sept 2010

FROM: Kevin Lundmark, Environmental Scientist II KWL

RE: April - May 2010 Treatment Sludge Disposal, Wildcat Loadout, Andalex Resources, C0070033

Sludge from the Crandall Canyon minewater treatment system was hauled to Wildcat Loadout for disposal between April 18 and May 7, 2010. Vacuum trucks were used to remove a sludge-water slurry from the sedimentation basin at Crandall Canyon mine. Thirty-eight truck loads of slurry, totaling 216,000 gallons, were transported to Wildcat Loadout and discharged to Sediment Pond C. (Crandall Canyon C0150032 / 2010 / Incoming / 06282010 / 0001.pdf) Disposal of treatment from Crandall Canyon Mine is described in the approved Crandall Canyon MRP, but is not described in the Wildcat Loadout MRP.

Genwal Resources sampled the sludge slurry on April 8, 2010 for the eight RCRA Toxicity Characteristic (RCRA-8) metals prior to beginning the cleanout activities. This analysis was competed pursuant to a commitment in Appendix 7-65 of the Crandall Canyon MRP. Analytical results for the RCRA-8 metals are included as Attachment 1. Analytical results indicate that total metals concentrations are all below the regulatory limit for hazardous waste. Note that the sludge sample was analyzed for total metals utilizing a strong acid digestion, not the TCLP extraction procedure. A sample of the sludge-water slurry was collected on May 7, 2010 for analysis of total suspended solids, total dissolved solids and density; these results are provided as Attachment 2.

Assuming that the May 7, 2010 sample was representative of the material discharged to Sediment Pond C, the approximate amount of sludge (dry-weight basis) disposed during the April – May cleanout is calculated as follows:

216,000 gal • 3.785 L/gal • 993 g/L • 0.0588 • 1.102E-6 ton/g = 52.6 tons

The above calculation neglects moisture content of the sludge. The density of dry (or semi-dry) sludge is unknown, and as such, the volume of sludge disposed in Pond C is unknown.

The Division inspected Pond C on May 13, 2010 following completion of cleanout operations at Crandall Canyon mine (Inspection Report 2359). A sample of the supernatant above the settled sludge was collected by Pete Hess and provided to Genwal Resources for submittal to their contract laboratory for analysis. Analytical results of the supernatant sample collected May 13, 2010 are provided in Attachment 3. Sediment Pond C was observed to be dry on June 8 and 10, 2010 (Inspection Report 2388).

Photo 1. Sediment Pond C after disposal of 216,000 gal sludge-water slurry 5/13/2010

Photo 3. Division Inspector collecting sample of supernatant 5/13/2010

Photo 4. Closeup of dried treatment sludge and coal fines / sediment in Pond C 6/8/2010

Photo 5. Pond C after drying 6/8/2010

Photo 6. Pond C after drying 6/8/2010

ATT. 1

HORIZON LABORATORIES

General Offices: P.O. Box 995 Price, UT. 84501 (435)637
Laboratory: 65 North 300 East Price, UT. 84501

Report Date
4/15/2010

Client
UtahAmerican Energy Inc.
Genwal Resources, Inc.
PO Box 1077
Price, UT. 84501
Dave Shaver
(435)888-4017

Sample I.D.
Flock
Sampled By: D.M.
Date: 4/8/2010 Time: 11:00
Received Date: 4/8/2010 Time: 14:05

Field Measurements				
Cond. uS	Temp. C	pH	D.O. ppm	Turbidity NTU

Notes:

Lab I.D. #: 999 Mine Code 8 Site Code

Certificate of Analysis

Analyte	Results	Units	MRL	Method	Date	Time	Analyst
Metals by ICP							
Arsenic, Total	<0.10	mg/L	0.10	EPA 200.7	4/13/2010	10:37	BLP
Barium, Total	0.825	mg/L	0.020	EPA 200.7	4/13/2010	10:37	BLP
Cadmium, Total	<0.02	mg/L	0.020	EPA 200.7	4/13/2010	10:37	BLP
Chromium, Total	<0.02	mg/L	0.020	EPA 200.7	4/13/2010	10:37	BLP
Lead, Total	<0.05	mg/L	0.050	EPA 200.7	4/13/2010	10:37	BLP
Selenium, Total	<0.10	mg/L	0.10	EPA 200.7	4/14/2010	10:35	BLP
Silver, Total	<0.02	mg/L	0.020	EPA 200.7	4/13/2010	10:37	BLP
Manual Cold Vapor							
Mercury, Total	<0.0005	mg/L	0.0005	EPA 245.1	4/14/2010	13:57	BLP

Brandon Pierce
Technical Director

All reported results meet the requirements of NELAC, except for Balance and Hardness.
Balance and Hardness are calculated from certified results.

ATT. 2

HORIZON LABORATORIES

General Offices: P.O. Box 995 Price, UT. 84501 (435)637-8855
Laboratory: 65 North 300 East Price, UT. 84501

Report Date
5/17/2010

Client
UtahAmerican Energy Inc.
Genwal Resources, Inc.
PO Box 1077
Price, UT. 84501
Dave Shaver
(435)888-4017

Sample I.D.
Sludge 1
Sampled By: D.M.
Date: 5/7/2010
Time: 10:45
Received
Date: 5/7/2010
Time: 12:59

Field Measurements

Cond. uS	Temp. C	pH	D.O. ppm	Turbidity NTU

Notes:
Sample density is 993 g/L
Total Solids = 5.88% w/w

Lab I.D. #: 1014
Mine Code 8 Site Code

Certificate of Analysis

Analyte	Results	Units	MRL	Method	Date	Time	Analyst
Wet Chem.							
Solids, Total Dissolved	710	mg/L	20	SM 2540 C-97	5/14/2010	15:10	BLP
Solids, Total Suspended	5140	mg/L	4	SM 2540 D-97	5/14/2010	15:10	BLP

Brandon Pierce
Technical Director

All reported results meet the requirements of NELAC, except for Balance and Hardness.
Balance and Hardness are calculated from certified results.

ATT. 3

HORIZON LABORATORIES

General Offices: P.O. Box 995 Price, UT. 84501 (435)637-8855
Laboratory: 65 North 300 East Price, UT. 84501

Report Date
6/3/2010

Client
UtahAmerican Energy Inc.
Genwal Resources, Inc.
PO Box 1077
Price, UT. 84501
Dave Shaver
(435)888-4017

Sample I.D.
Pond "C" SE Inlet
Sampled By: Peter Hess
Date: 5/13/2010 **Time:** 13:43
Received Date: 5/17/2010 **Time:** 14:07

Field Measurements

Cond. uS	Temp. C	pH	D.O. ppm	Turbidity NTU

Notes:
Sample Taken at Wildcat Loadout / Pond "C" / SE Inlet.
Sample is effluent from Crandall Mine Iron Sludge Treatment Pond.
*pH expired when received.

Lab I.D. #: 1022 Mine Code Site Code

Certificate of Analysis

Analyte	Results	Units	MRL	Method	Date	Time	Analyst
Wet Chem.							
pH*	8.48	pH Units	N/A	SM 4500 -H+ B-00	5/19/2010	14:25	BLP
Solids, Total Dissolved	772	mg/L	20	SM 2540 C-97	5/20/2010	14:03	BLP
Solids, Total Suspended	11	mg/L	4	SM 2540 D-97	5/20/2010	14:03	BLP
Metals by ICP							
Aluminum, Dissolved	0.05	mg/L	0.02	EPA 200.7	6/2/2010	15:36	BLP
Aluminum, Total	0.25	mg/L	0.02	EPA 200.7	6/2/2010	9:02	BLP
Iron, Dissolved	<0.010	mg/L	0.010	EPA 200.7	6/2/2010	15:36	BLP
Iron, Total	0.078	mg/L	0.010	EPA 200.7	6/2/2010	9:02	BLP
Manganese, Dissolved	0.008	mg/L	0.001	EPA 200.7	6/2/2010	15:36	BLP
Manganese, Total	0.016	mg/L	0.001	EPA 200.7	6/2/2010	9:02	BLP

Brandon Pierce
Technical Director

All reported results meet the requirements of NELAC, except for Balance and Hardness.
Balance and Hardness are calculated from certified results.